

TDM 2.0

A New Model for Managing Transportation Demand



**PARSONS
BRINCKERHOFF**

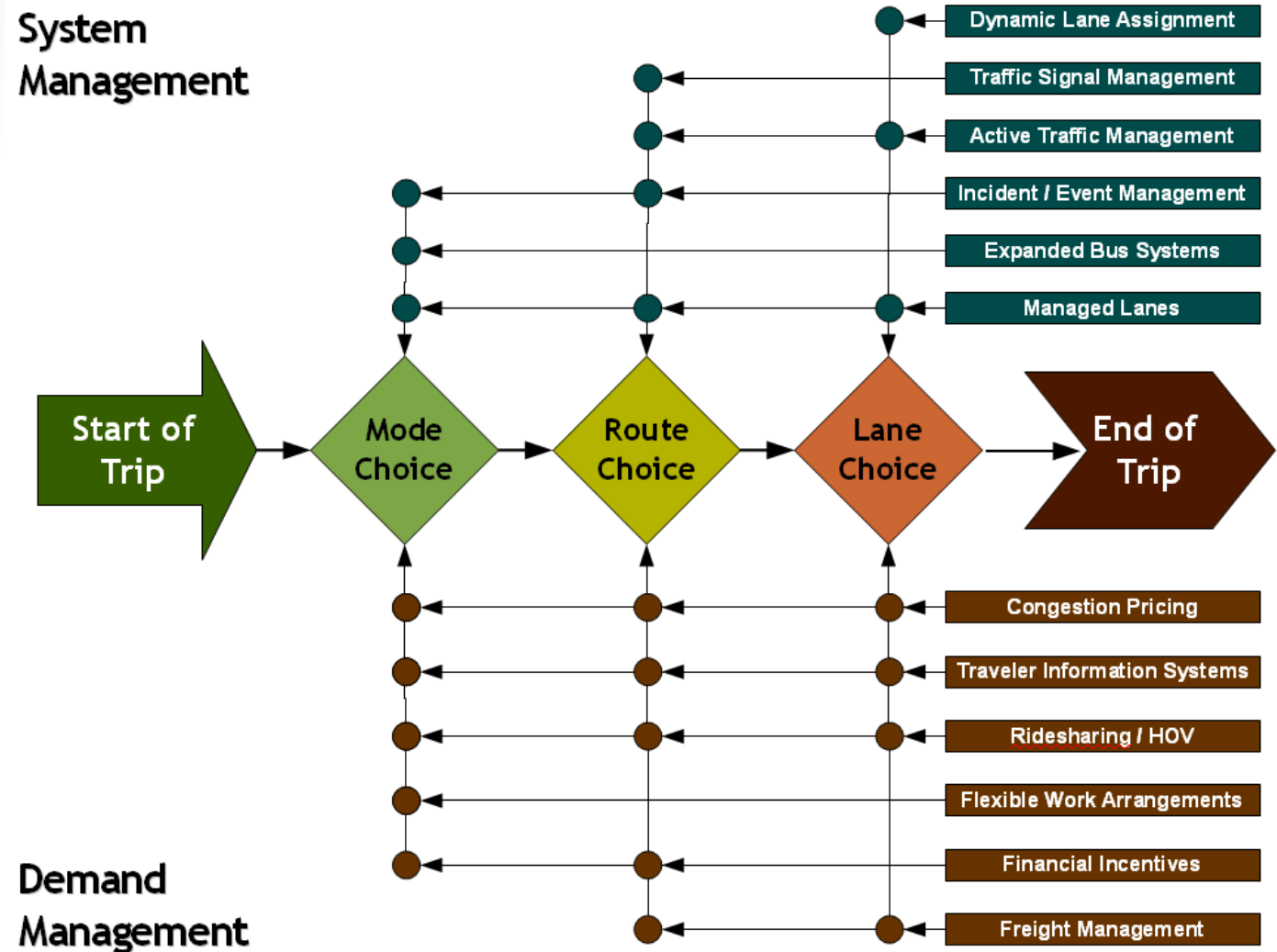
TDM 2.0: A New Model

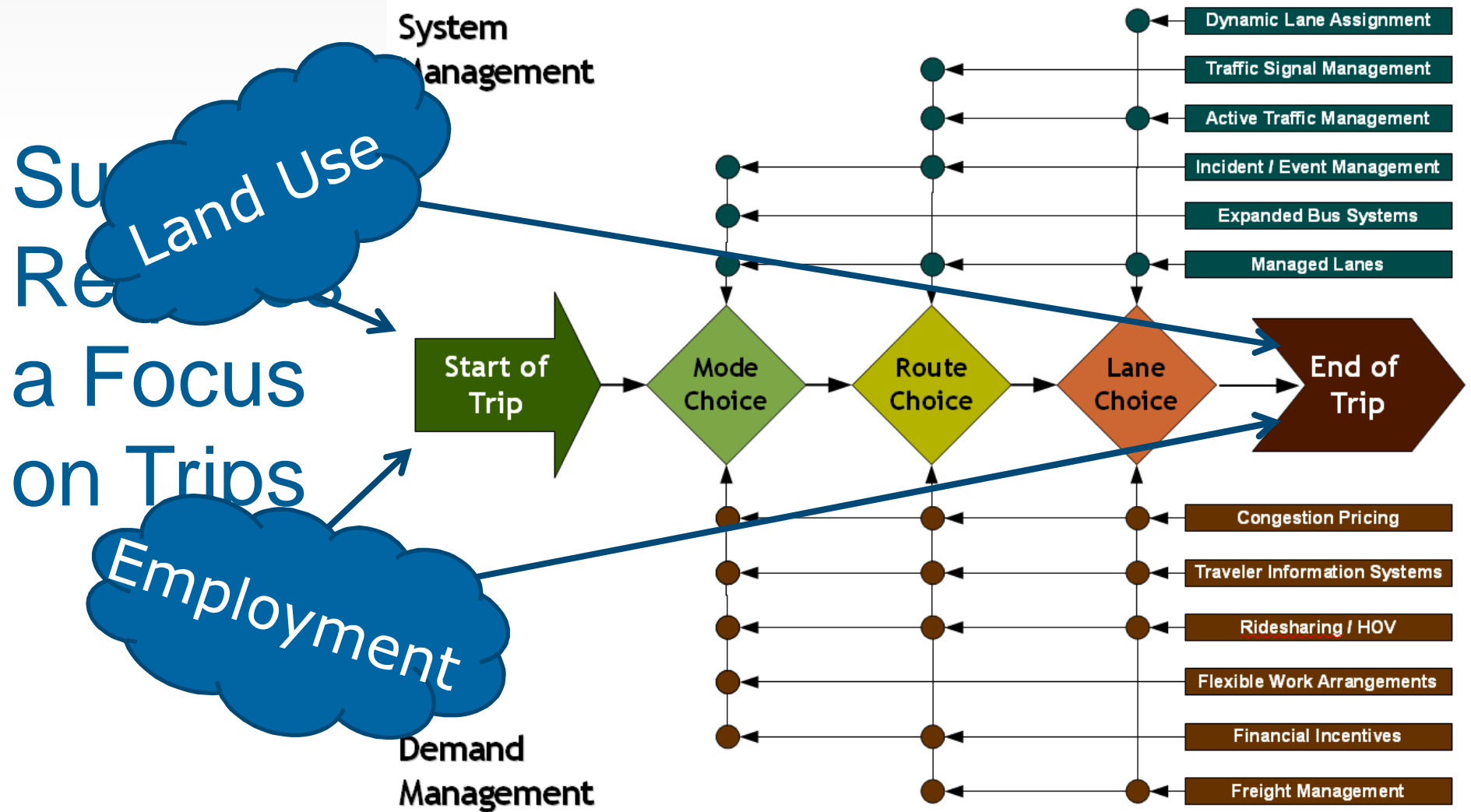
- A Systemwide Problem Requires System-Oriented Solutions
- Regional mobility focus
 - Uses existing resources more effectively and efficiently
 - Relies on new information technologies, interdisciplinary collaboration, and institutional relationships
 - Produces the best value for the “investors”

TDM 2.0 focuses on both people and goods movement.

TDM 2.0 emphasizes better value for the traveler, which ultimately yields improved conditions in congested corridors.

Success Requires a Focus on Trips





What It Is and What It Is Not

What It Is

- Cross-industry partnerships
- Solutions-based orientation
- Strategic investment
- Integrated with other infrastructure
- “Bottom line” objectives

What It is Not

- “Traditional TDM”
- Activities-based programs
- Tactical application
- Isolated from other transportation investments
- Altruistic objectives

What TDM 1.0 Has Taught Us

TDM's Strengths

- Ongoing dialogue with generators of traffic
 - Employers
 - Developers
 - Event hosts
- Customer-focused messaging works
 - One size does not fit all

TDM's Weaknesses

- Traditional emphasis on mode choice
 - TDM = ridesharing
 - TDM = transit
- Disconnected from traffic management
- Different skill sets from other transportation practitioners

Listening to the Lesson

- Are we
 - broadening our skill set?
 - developing partnerships with our traffic engineering colleagues?
 - engaging developers and employers beyond “traditional TDM”?
 - invested in the future?
 - looking beyond VMT?
 - thinking big?

20th Century Response

- Built capacity to meet future travel demand
- Building more capacity was largely unimpeded by fiscal or physical constraints
- Supply-oriented approach



21st Century Response

- Performance-driven
- Solutions-oriented
- Fiscally-constrained

Technology to connect travelers with real time traffic & travel options

Road pricing to manage peak congestion and raise revenue

Multimodal services to maximize the carrying capacity of existing investments

Flexible design to optimize the use of available infrastructure and development

Our Solutions Will Demonstrate Clear Benefits

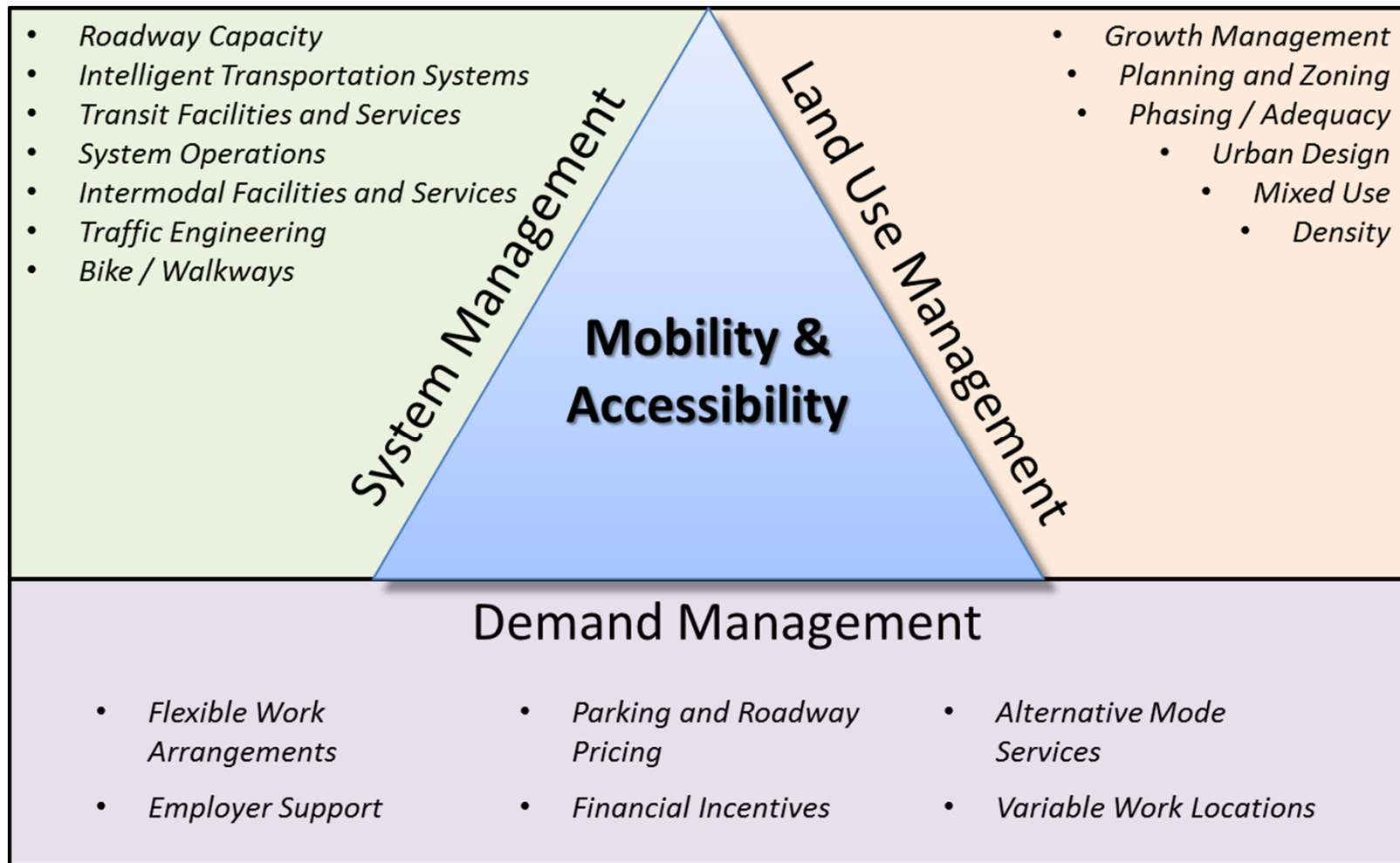
System Benefits

- Greater person throughput
- Better utilization of available system capacity
- Optimizes transit investments
- Preserves options for corridors
- Cost recovery from user contributions
- Reduction in crashes

User Benefits

- Reliable travel time
- Reduced delay
- Reduced out of pocket costs
- More travel choices
- Improved economic mobility

A Focus on Mobility



What You'll Get Out of This

- **A Focus on Results!**
- A new model for success
 - Avoid plans that sit on shelves
 - Mechanism for leading action
- Long-term sustainability
 - Extending the life of design / capacity
 - Deep, cross-cutting partnerships
- **Best in Class mentality for Charlotte**

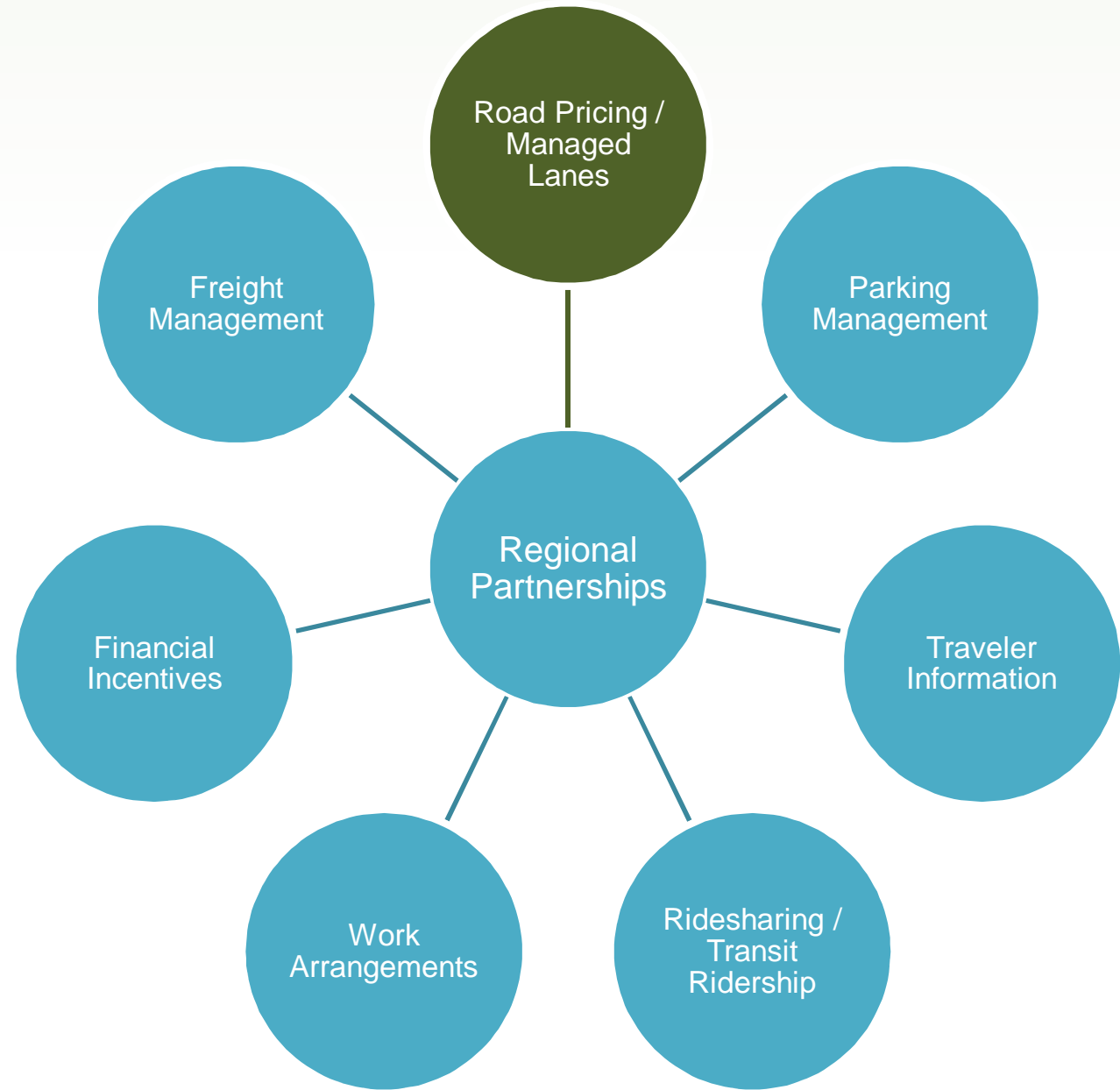
Building a Program of Solutions

Nuts and Bolts

Building a Program of Solutions



Managed Lanes & TDM: Putting Ideas to Practice



Example: I-77 Managed Lanes, Charlotte

- Improve regional mobility
 - Further the vision for mobility in the region
 - Use variable pricing to facilitate long term congestion management
 - Realize reliable travel time
 - Ensure integration with other projects in the corridor
- Achieve policy and program success
 - Coordinate operations and maintenance activities in the corridor



Southbound I-77, AM Rush Hour



Managed Lanes with Tolling System

Example: I-77 Managed Lanes, Charlotte

- 50-Year Toll Concession
 - Toll revenue risk assumed by concessionaire
 - Revenue sharing if toll revenue exceed forecasts
- Dynamic pricing
 - Interoperable with NC Quick Pass & EZ Pass, etc.
- Vehicles exempt from tolls
 - HOV 3+, motorcycles, CATS buses, emergency
- Performance requirements
 - Operating speed standards apply during AM and PM peak periods, 90% of the time
 - Average speed of no less than 80% of the posted speed limit on the HOT Lanes,
 - Title 23, USC Section 166: average speed of no less than 45 mph on the HOT Lanes



Enhancing Vehicle Occupancy

- Confluence of Events
 - Population / employment growth = more vehicles
 - Managed lanes performance = fixed volume of vehicles per hour
 - Long term concession = limited corridor improvements in future
 - Conclusion: need for greater vehicle occupancies
- Enhancing bus / carpool trips on managed lanes
 - Incentives for use
 - Multimodal trip / account sharing

Los Angeles I-10 / I-110 Express Lanes Transit / Carpool Loyalty Program

- ✓ *Registered carpool or bus riders earn credits for use on the Managed Lanes.*
- ✓ *Rewards regular users of transit and carpool modes*
- ✓ *Encourages use of managed lanes for when they are needed.*

Linking TDM to Managed Lanes:

I-95 Case Study (Miami, Florida)

- I-95 Express Lanes
 - Multiple goals:
 - Maximize revenue
 - Enhance transit services
 - Preserve operations for carpools
 - Connect regional TDM program to toll operations



Linking TDM to Managed Lanes:

I-95 Case Study (Miami, Florida)

Problem

- Heavily congested HOV lane
 - One lane each direction
 - Minimal transit services
 - Significant delay
- Need to change occupancy
 - HOV-2+ → HOV-3+
 - Restore travel time savings and reliability

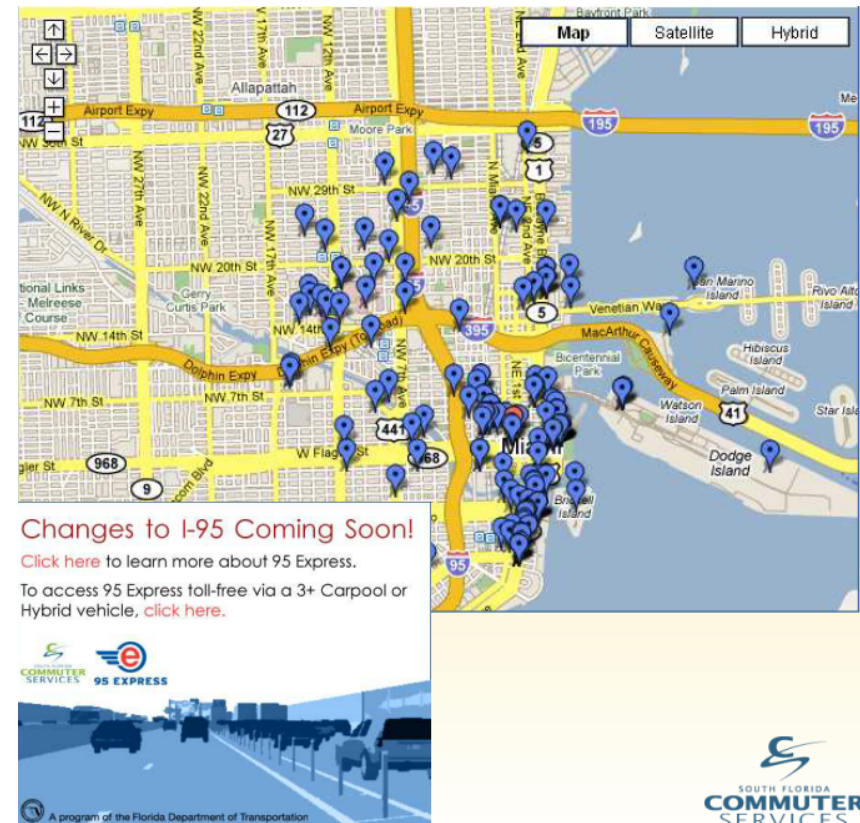
Plan

- Priced managed lanes provided
 - Revenue to expand roadway
 - Means to avoid congestion
 - Process to use excess capacity in lanes
- yet also created a new problem
 - Loss of carpoolers

Linking TDM to Managed Lanes: I-95 Case Study (Miami, Florida)

Solution

- South Florida Commuter Services to the rescue
 - Regional TDM Program
- Activated employer network to
 - Create employer outreach for one-on-one education & engagement
 - Register 3+ carpools
 - Minimize loss of 2+ carpools
 - Maintain database of users
 - Provide annual reporting for CMAQ



Example:

Take Away from Case Studies

Opportunity

- Long term relationships
- Help NCDOT meet performance obligations
- Financial incentive to change mode

Threat

- Unless specified by agreement, could TDM program's success in generating HOV-3+ be seen as "taking away" revenue?

Importance of the New Model for Managing Demand

Long Term Relationships

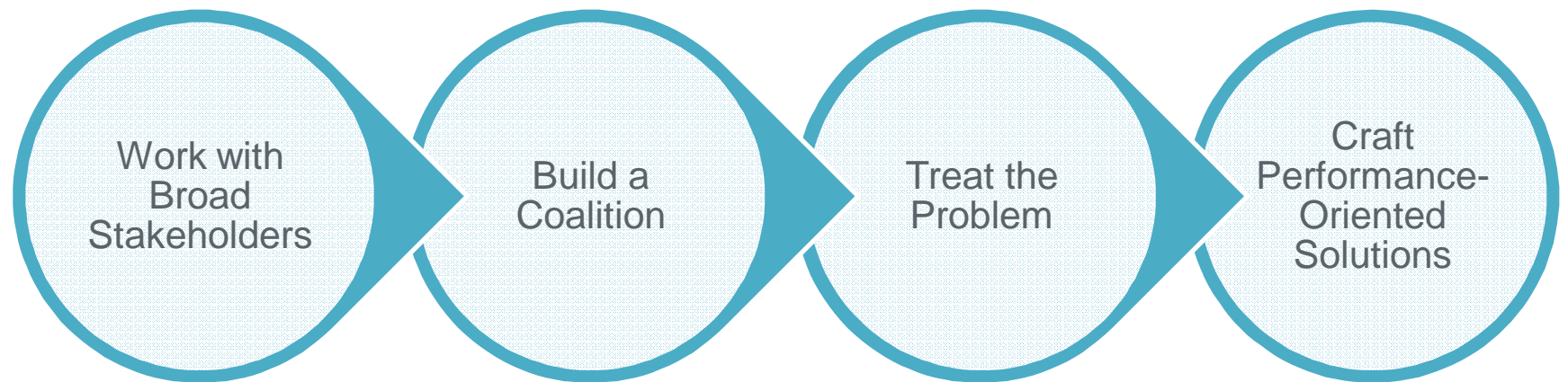
- Embraces broad system, stakeholder, and user perspectives
- Provides for sustainable solutions that meet regional and statewide performance objectives

Long Term Returns

- Yields sustainable results on investments
- Reduces loss of economic productivity and community vitality



Developing TDM 2.0



Developing TDM 2.0

Work with Broad Stakeholders



- Start with those who will implement
- Cross-disciplinary exposure
- Matching the right experts with the right stakeholders
- Thinking global, acting local

Developing TDM 2.0

Building a Coalition

- Proactive stakeholder engagement
- Unusual partnerships
- Purposeful design
- Sum greater than the parts



Developing TDM 2.0

Treat Problems, Not Symptoms

- Creative engagement
- Multi-disciplinary visioning
- Context driven solutions
- Strategic, Business, and Action Plans



Developing TDM 2.0

Craft Performance Oriented Solutions



- Facilitated Leadership
- Measures of Effectiveness
- Reporting / Accountability
- Refinement

Case Studies

Example: Creating a True Integrated Plan

- Washington State DOT *Moving Washington* Program
 - Framework for all planning and operations
 - Integrated, cost-effective solutions
 - System management
 - Demand management
 - Strategic additions to capacity



Moving Washington – We manage and operate a sustainable transportation system to complement the future we want.



Managing Demand

Providing more travel choices and options for people and freight helps improve the efficiency and effectiveness of our transportation system



Operating Roadways Efficiently

Moving Washington improves the system's performance and generates revenue through variable pricing and other traffic management tools



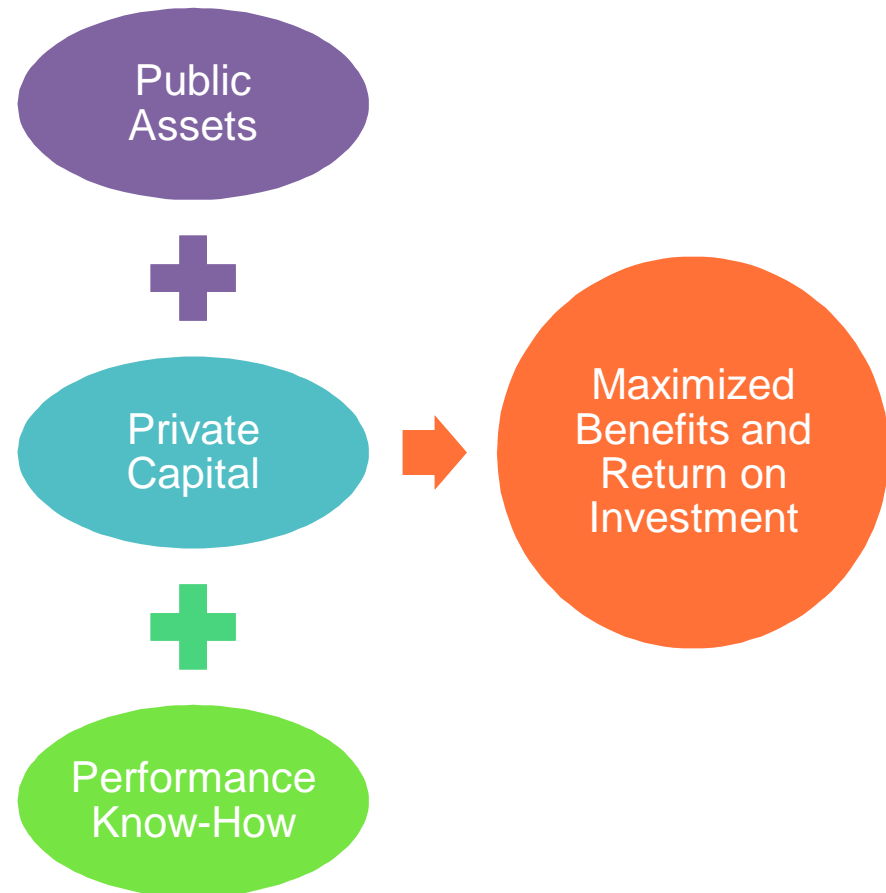
Adding Capacity Strategically

Adding new capacity to our currently over-stressed transportation system is a critical component of Moving Washington

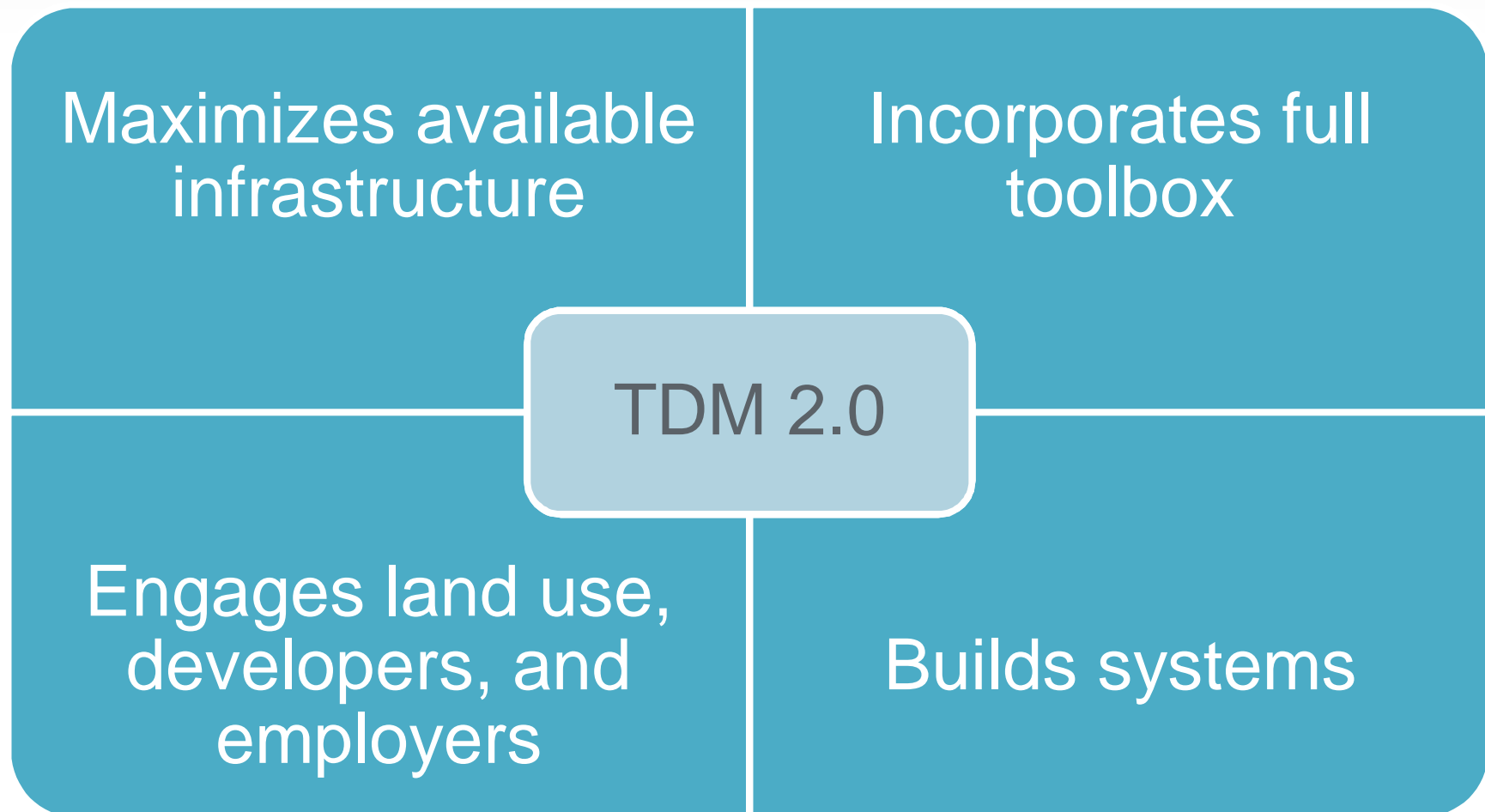
Final Thoughts on Building a Program of Success

Big Thinking Leads to Big Success

- Transportation as a catalyst for development
 - Establish opportunities for development
 - Solutions-based Approach



Applying the Lessons



Conclusions

- TDM 2.0 is an integrated part of our 21st Century transportation system
 - Integration requires recognition of systemwide synergies
 - Managing demand for all capacity (new and existing)
 - Engaging the generators of traffic, so that they are a part of the solution
- Starts with a comprehensive, multi-agency commitment and leadership

Let's Get Started!